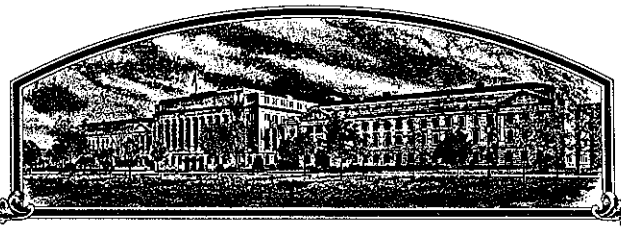
No. 8500177



# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

## Columbia Basin Seeds

Whereas, THERE HAS BEEN PRESENTED TO THE

**Secretary of Agriculture**

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF eighteen YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT RIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. IE UNITED STATES SEED OF THIS VARIETY (1) SHALL BE SOLD BY VARIETY NAME ONLY AS S OF CERTIFIED SEED AND (2) SHALL CONFORM TO THE NUMBER OF GENERATIONS BY THE OWNER OF THE RIGHTS. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

WHEAT

'Basin'

In Testimony Whereof, *I have hereunto set my hand and caused the seal of the* Plant Variety Protection Office *to be affixed at the City of* Washington, D. C. *this* 31st *day of* May *in the year of our Lord one thousand nine hundred and ninety.*

*Attest:*

Kenneth W. Evans
*Commissioner*
*Plant Variety Protection Office*
*Agricultural Marketing Service*

Clayton Yeutter
*Secretary of Agriculture*

APPROVAL EXPIRES 4-30-85

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
WAREHOUSE & SEED DIVISION

# APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

*(Instructions on reverse)*

FORM APPROVED: OMB NO. 0581-0055

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S)
Columbia Basin Seeds

2. TEMPORARY DESIGNATION
Basin

3. VARIETY NAME
Basin

4. ADDRESS *(Street and No. or R.F.D. No., City, State, and Zip Code)*
1390 N. Frontage Rd
Moses Lake, WA 98837

5. PHONE *(Include area code)*
509-765-3899

FOR OFFICIAL USE ONLY

PVPO NUMBER
8500177

6. GENUS AND SPECIES NAME
Triticum Aestivum

7. FAMILY NAME *(Botanical)*
Gramineae

FILING
DATE
7/9/85
TIME
8:30 [X] A.M. [ ] P.M.

8. KIND NAME
Wheat, Common

9. DATE OF DETERMINATION
9/21/82

FEES RECEIVED
AMOUNT FOR FILING
$ 1,800
DATE
7/9/85
AMOUNT FOR CERTIFICATE
$ 200.00
DATE
Apr 30, 1990

10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION *(Corporation, partnership, association, etc.)*
Partnership

11. IF INCORPORATED, GIVE STATE OF INCORPORATION

12. DATE OF INCORPORATION

13. NAME AND ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS
Columbia Basin Seeds
1390 N.Frontage Rd
Moses Lake, Wa 98837

PHONE *(Include area code)*: 509-765-3899

14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED

a. [X] Exhibit A, Origin and Breeding History of the Variety *(See Section 52 of the Plant Variety Protection Act.)*

b. [X] Exhibit B, Novelty Statement

c. [X] Exhibit C, Objective Description of the Variety *(Request form from Plant Variety Protection Office.)*

d. [ ] Exhibit D, Additional Description of the Variety

15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? *(See Section 83(a) of the Plant Variety Protection Act.)*
[X] Yes *(If "Yes," answer items 16 and 17 below)* [ ] No

16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?
[X] Yes [ ] No

17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?
[X] Foundation [X] Registered [X] Certified

18. DID THE APPLICANT(S) FILE FOR PROTECTION OF THE VARIETY IN THE U.S.?
June 21, 1985 [X] Yes *(If "Yes," give date)*
[ ] No

19. HAS THE VARIETY BEEN OFFERED FOR SALE OR MARKETED IN THE U.S. OR OTHER COUNTRIES?
[ ] Yes *(If "Yes," give names of countries and dates)*
[X] No

20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF APPLICANT
Columbia Basin Seeds

DATE
June 21, 1985

SIGNATURE OF APPLICANT
Dale P. Walker Pres.

DATE
June 21, 1985

FORM WA-470 (3-84) (Formerly LMGS-470 (8-83) which is obsolete.)

8500177

WHEAT (Soft White Winter)

"BASIN"

14A. Exhibit A:

Pedigree:

Basin is a selection from a Nugaines line. It was selected for height, using 85cm as a selection base. It was also selected for disease absence. These selections were made over 5 generations. Three of the generations were strictly for height with the last 2 being for height and rust resistance. Basin has appeared stable for height for 4 generations of head row production and 2 generations of bulk seeding.

THERE APPEAR TO BE NO VARIANTS IN THIS VARIETY.

14B. Exhibit B. Novelty Statement

Basin is unique in it's height characteristics. All soft white winter wheats released to date are at the upper ranges of semi-dwarf, while Basin is at the lower ranges. Basin also has excellent resistance to the rust races prevalent in the Northwest.

Basin is most similar to Nugains in characteristics and they differentiate from each other in their height. Nugains under irrigation is of a standard height, that is 38 inches to 42 inches, whereas Basin exhibits a much shorter height of 30 inches to 34 inches. This gives Basin it's true novelty as a variety. No other variety of soft white winter wheat released to date has as short a height as Basin.

8500177

# A D D E N D U M

Exhibit "B"

"BASIN"

The now widely accepted variety "basin" is most typical in visual comparison with the variety nugaines, an older variety, which is now rarely grown. Basin is a soft white winter wheat grown in the soft white wheat areas of the Pacific Northwest. It currently could be compared to "Daws" winter wheat and to some extent "Stephens". However, there is one primary novelty characteristic that those two existing varieties do not have, and that is "Basin's" uniquely short plant height. "Basin's" height is most evident when grown under irrigated conditions where it can range from 30-33" in plant height when "Daws" ranges from 37-38" and "Stephens" from 36" to 40"; (refer to attached data). In high rainfall dryland areas the height of "Basin" can be in the range of 22" where "Daws" is 27" plus, and Stephens is 26". Even with this height difference, "Basin" will usually out-yield "Daws" and approaches the yeilds of "Stephens". "Basin's" higher test weight will run consistently higher than "Stephens" and usually over 60.0.

It is rated equal to or better than "Daws" and "Stephens" for common leaf diseases of the northwest.

Enclosed for your review are data sheets, certified seed buyers guide and sales brochure.

8500177

# Columbia Basin Seeds

1390 N. Frontage Rd.
Moses Lake, Washington 98837
509 - 765-3898 or 765-3899

December 19, 1989

Mr. Eldon E. Taylor, Examiner
Plant Variety Protection Office
NAL Building, Rm.500
10301 Baltimore Blvd.
Beltsville, MD. 20705-2351

Dear Mr. Taylor:

Subject: Wheat Application No. 8500177, "Basin"

I am submitting to you the data used to compare Basin to Nugaines. This data was collected over a period of two years by the University of Idaho. The data was presented to farmers primarily for yield, however height and test weight were part of the data base.

| | |
|---|---|
| Overall Plant Height (5 plot average 1985) | 30.25 in. |
| Overall Nugaines Height (5 plot average 1985) | 28.80 in. |
| Overall Basin Height (5 plot average 1985) | 25.10 in. |

Using 2.54 cm./in.

| | |
|---|---|
| Basin is shorter than the standard variety's by | 13.10 cm. |
| Basin is shorter than Nugaines (Most similar) by | 9.40 cm. |

Not as many plots included Basin and Nugaines in 1986. However an indication of the difference in height is indicated in the test results at Genesee Idaho.

| | |
|---|---|
| Average overall height (All variety's) | 33.4 in. |
| Average overall height of Nugaines | 32.6 in. |

5

| | |
|---|---|
| Average overall height of Basin | 24.7 in. |
| Basin shorter than varieties considered | 8.7 in/22.1 cm. |
| Basin shorter than Nugaines (Most similar) | 7.9 in/20.1 cm. |

This data was supplied to me by the University of Idaho. Our own test were conducted under similar conditions but in a much narrower range. Under irrigation or under high rain fall conditions the height difference is much more pronounced.

This data should be added to the novelty statement Exhibit B.

Table . Agronomic performance of 13 soft white winter wheat varieties and advanced lines grown under dryland conditions at Genesee, Idaho during 1985.

| Variety | Yield | | Test Weight | Plant Height |
|---|---|---|---|---|
| | -bu/ac-* | -rank- | -lb/bu- | -in- |
| Basin | | | | 23.6 |
| Cashup | | | | 27.9 |
| Crew (Club) | | | | 29.0 |
| Daws | | | | 29.0 |
| Dusty | | | | 28.5 |
| Hill81 | | | | 31.4 |
| Hyslop | | | | 26.9 |
| Lewjain | | | | 29.2 |
| Nugaines | | | | 27.7 |
| Stephens | | | | 29.2 |
| Tres (Club) | | | | 29.6 |
| Tyee (Club) | | | | 28.4 |
| OR8113 | | | | 29.6 |
| Ave. | | | | 28.5 |
| SE | | | | 0.42 |

*Yield based on 60 lb/bu test weight.

Data on bushel, weight and rank omitted as impertinent information.

Table . Agronomic performance of 13 soft white and 5 hard red winter wheat varieties and advanced lines grown under dryland conditions near Potlatch, Idaho during 1985.

| Variety | Yield | | Test Weight | Plant Height |
|---|---|---|---|---|
| | -bu/ac-* | -rank- | -lb/bu- | -in- |
| SOFT WHITE | | | | |
| Basin** | | | | 24.8 |
| Cashup** | | | | 27.7 |
| Crew (Club) | | | | 28.6 |
| Daws | | | | 28.9 |
| Dusty | | | | 28.6 |
| Hill 81 | | | | 31.1 |
| Hyslop | | | | 24.6 |
| Lewjain | | | | 28.6 |
| Nugaines | | | | 26.5 |
| Stephens | | | | 30.6 |
| Tres (Club) | | | | 28.9 |
| Tyee (Club) | | | | 28.6 |
| OR8113 (Malcolm) | | | | 30.0 |
| Ave. | | | | 28.3 |
| S (mean) | | | | 0.41 |
| HARD RED | | | | |
| Hatton | | | | 38.0 |
| Norwin | | | | 28.5 |
| Weston | | | | 41.5 |
| ID0301 | | | | 34.4 |
| WA6816 (Batum) | | | | 33.2 |
| Ave. | | | | 35.1 |
| S (mean) | | | | 0.87 |

* Yield based on 60 lb/bu test weight.
**Proprietary (PVP).

Data on bushel, weight and rank omitted as impertinent information.

Table 1. Agronomic performance of 14 soft white winter wheat varieties and advanced lines grown under irrigation near Declo, Idaho during 1985.

| Variety | Yield | | Test Weight | Plant Height | Lodging |
|---|---|---|---|---|---|
| | -lb/ac-* | -rank- | -lb/bu- | -in- | -%- |
| Basin** | | | | | 0 |
| Cashup** | | | | | 0 |
| Crew (Club) | | | | | 20 |
| Daws | | | | | 0 |
| Dusty | | | | | 0 |
| Hill 81 | | | | | 0 |
| Hyslop | | | | | 0 |
| Lewjain | | | | | 0 |
| Nugaines | | | | | 0 |
| Stephens | | | | | 0 |
| Tres (Club | | | | | 0 |
| Tyee (Club) | | | | | 5 |
| OR8113 | | | | | 0 |
| Daws/Stephens (50/50 Mix) | | | | | 0 |
| Ave. | | | | | - |
| S (mean) | | | | | - |

* Yield based on 60 lb/bu test weight.
**Proprietary (PVP).

Data on bushel, weight and rank omitted as impertinent information.

Table 1. Agronomic performance of 13 soft white and 5 hard red winter wheat varieties and advanced lines grown under irrigation near Twin Falls, Idaho during 1985.

| Variety | Yield | | Test Weight | Plant Height |
|---|---|---|---|---|
| | -bu/ac-* | -rank- | -lb/bu- | -in- |
| Soft White | | | | |
| Basin** | | | | 23.7 |
| Cashup** | | | | 26.1 |
| Crew (Club) | | | | 27.7 |
| Daws | | | | 27.6 |
| Dusty | | | | 27.4 |
| Hill 81 | | | | 30.0 |
| Hyslop | | | | 26.2 |
| Lewjain | | | | 29.3 |
| Nugaines | | | | 25.5 |
| Stephens | | | | 28.5 |
| Tres (Club) | | | | 27.9 |
| Tyee (Club) | | | | 26.3 |
| OR8113 (Malcolm) | | | | 29.3 |
| Ave. | | | | 27.3 |
| S (mean) | | | | 0.85 |
| Hard Red | | | | |
| Hatton | | | | 44.9 |
| Norwin | | | | 31.1 |
| Redwin | | | | 44.0 |
| Weston | | | | 46.8 |
| WA6816 | | | | 37.8 |
| Ave. | | | | 40.9 |
| S (mean) | | | | 0.74 |

* Yield based on 60 lb/bu test weight.
**Proprietary (PVP).

Data on bushel, weight and rank omitted as impertinent.

Table . Agronomic performance of 13 soft white winter wheat varieties and advanced lines grown under dryland conditions at Tammany, Idaho during 1985.

| Variety | Yield | | Test Weight | Plant Height |
|---|---|---|---|---|
| | -bu $ac^{-1}$-+ | -rank- | -lb $bu^{-1}$- | -in- |
| Basin | | | | 24.6 |
| Cashup | | | | 31.2 |
| Crew (Club) | | | | 32.5 |
| Daws | | | | 32.1 |
| Dusty | | | | 33.3 |
| Hill81 | | | | 35.5 |
| Hyslop | | | | 29.8 |
| Lewjain | | | | 33.5 |
| Nugaines | | | | 30.4 |
| Stephens | | | | 30.7 |
| Tres (Club) | | | | 32.9 |
| Tyee (Club) | | | | 33.0 |
| OR8113 | | | | 33.4 |
| $\bar{X}$ _ | | | | 31.8 |
| $SE_{\bar{X}}$ | | | | 0.79 |

+Yield based on 6 lb $bu^{-1}$ test weight.

Data on bushel, weight and rank omitted as impertinent information.

Table 7. Agronomic performance of 17 soft white winter wheat varieties and advanced lines grown under dryland conditions near Genesee, Idaho during 1986†.

| Variety | Yield‡ | | Test Weight | Grain Protein | Plant Height |
|---|---|---|---|---|---|
| | -bu/ac- | -rank- | -lb/bu- | -%- | -in- |
| Basin§ | | | | | 24.7 |
| Cashup§ | | | | | 31.5 |
| Crew (club) | | | | | 35.0 |
| Daws | | | | | 32.2 |
| Dusty | | | | | 33.3 |
| Hill81 | | | | | 36.4 |
| Lewjain | | | | | 33.4 |
| Malcolm | | | | | 33.8 |
| Nugaines | | | | | 32.6 |
| OI80855 | | | | | 33.8 |
| Oveson (OR7996) | | | | | 35.5 |
| Stephens | | | | | 33.3 |
| Tres (club) | | | | | 34.0 |
| Tyee (club) | | | | | 33.9 |
| WA7163 | | | | | 34.1 |
| WA7166 (club) | | | | | 33.9 |
| PB1/80WW3§ | | | | | 33.8 |
| Ave | | | | | 33.4 |
| LSD (p=0.05) | | | | | 2.8 |

†No lodging observed among soft white winter wheat entries at this location during 1986.
‡Yield based on 60 lb/bu test weight.
§Proprietary (PVP).

Data on bushel, weight and rank omitted as impertinent information.

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FORM APPROVED: OMB NO. 0581-0056

EXHIBIT C
(Wheat)

U. S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, MEAT, GRAIN AND SEED DIVISION
BELTSVILLE, MARYLAND 20785

# OBJECTIVE DESCRIPTION OF VARIETY
## WHEAT (*TRITICUM SPP.*)

INSTRUCTIONS: *See Reverse.*

NAME OF APPLICANT(S)

Columbia Basin Seeds

ADDRESS (*Street and No. or R.F.D. No., City, State, and ZIP Code*)

1390 N.Frontage Rd
Moses Lake, WA 98837

FOR OFFICIAL USE ONLY

PVPO NUMBER 8500177

VARIETY NAME OR TEMPORARY DESIGNATION

Place the appropriate number that describes the varietal character of this variety in the boxes below.
Place a zero in first box (e.g. [0][8][9] or [0][9]) when number is either 99 or less or 9 or less.

**1. KIND:**

[1] 1 = COMMON 2 = DURUM 3 = EMMER 4 = SPELT 5 = POLISH 6 = POULARD 7 = CLUB

**2. TYPE:**

[2] 1 = SPRING 2 = WINTER 3 = OTHER (*Specify*) _____

[1] 1 = SOFT 2 = HARD 3 = OTHER (*Specify*) _____

[1] 1 = WHITE 2 = RED 3 = OTHER (*Specify*) _____

**3. SEASON - NUMBER OF DAYS FROM EMERGENCE TO:**

[2][3][0] FIRST FLOWERING

[2][3][5] LAST FLOWERING

**4. MATURITY (*50% Flowering*):**

[0][0] NO. OF DAYS *EARLIER* THAN . . . . . [5]

[0][5] NO. OF DAYS *LATER* THAN . . . . . [5]

1 = ARTHUR 2 = SCOUT 3 = CHRIS 4 = LEMHI 5 = NUGAINES 6 = LEEDS

**5. PLANT HEIGHT (*From soil level to top of head*):**

[0][8][5] CM. HIGH

[0][0] CM. TALLER THAN . . . . . [5]

[1][0] CM. SHORTER THAN . . . . . [5]

1 = ARTHUR 2 = SCOUT 3 = CHRIS 4 = LEMHI 5 = NUGAINES 6 = LEEDS

**6. PLANT COLOR AT BOOTING (*See reverse*):**

[2] 1 = YELLOW GREEN 2 = GREEN 3 = BLUE GREEN

**7. ANTHER COLOR:**

[1] 1 = YELLOW 2 = PURPLE

**8. STEM:**

[1] Anthocyanin: 1 = ABSENT 2 = PRESENT

[1] Hairiness of last internode of rachis: 1 = ABSENT 2 = PRESENT

[0][3] NO. OF NODES (*Originating from node above ground*)

[1] Waxy bloom: 1 = ABSENT 2 = PRESENT

[1] Internodes: 1 = HOLLOW 2 = SOLID

[1][9] CM. INTERNODE LENGTH BETWEEN FLAG LEAF AND LEAF BELOW

**9. AURICLES:**

[1] Anthocyanin: 1 = ABSENT 2 = PRESENT

[1] Hairiness: 1 = ABSENT 2 = PRESENT

**10. LEAF:**

[2] Flag leaf at booting stage: 1 = ERECT 2 = RECURVED 3 = OTHER (*Specify*): _____

[1] Hairs of first leaf sheath: 1 = ABSENT 2 = PRESENT

[1][2] MM. LEAF WIDTH (*First leaf below flag leaf*)

[1] Flag leaf: 1 = NOT TWISTED 2 = TWISTED

[1] Waxy bloom of flag leaf sheath: 1 = ABSENT 2 = PRESENT

[2][0] CM. LEAF LENGTH (*First leaf below flag leaf*):

8500177

**11. HEAD:**

[2] Density: 1 = LAX 2 = DENSE

[2] Shape: 1 = TAPERING 2 = STRAP 3 = CLAVATE 4 = OTHER (Specify) _____

[4] Awnedness: 1 = AWNLESS 2 = APICALLY AWNLETED 3 = AWNLETED 4 = AWNED

[2] Color at maturity: 1 = WHITE 2 = YELLOW 3 = PINK 4 = RED 5 = BROWN 6 = BLACK 7 = OTHER (Specify): _____

[1][0] CM. LENGTH [1][0] MM. WIDTH

**12. GLUMES AT MATURITY:**

[3] Length: 1 = SHORT (CA. 7 mm.) 2 = MEDIUM (CA. 8 mm.) 3 = LONG (CA. 9 mm.) 3

[4] Width: 1 = NARROW (CA. 3 mm.) 2 = MEDIUM (CA. 3.5 mm.) 3 = WIDE (CA. 4 mm.)

[3] Shoulder shape: 1 = WANTING 2 = OBLIQUE 3 = ROUNDED 4 = SQUARE 5 = ELEVATED 6 = APICULATE

[ ] Beak: 1 = OBTUSE 2 = ACUTE 3 = ACUMINATE

10/20/8

**13. COLEOPTILE COLOR:**

[1] 1 = WHITE 2 = RED 3 = PURPLE

**14. SEEDLING ANTHOCYANIN:**

[1] 1 = ABSENT 2 = PRESENT

**15. JUVENILE PLANT GROWTH HABIT:**

[2] 1 = PROSTRATE 2 = SEMI-ERECT 3 = ERECT

**16. SEED:**

[1] Shape: 1 = OVATE 2 = OVAL 3 = ELLIPTICAL

[1] Cheek: 1 = ROUNDED 2 = ANGULAR

[2] Brush: 1 = SHORT 2 = MEDIUM 3 = LONG

[1] Brush: 1 = NOT COLLARED 2 = COLLARED

[ ] Phenol reaction (See instructions): 1 = IVORY 2 = FAWN 3 = LT. BROWN 4 = BROWN 5 = BLACK

[1] Color: 1 = WHITE 2 = AMBER 3 = RED 4 = PURPLE 5 = OTHER (Specify) _____

[6][ ] MM. LENGTH [3.75] MM. WIDTH [45.3] GM. PER 1000 SEEDS

**17. SEED CREASE:** Similar to Nugaines

[ ] Width: 1 = 60% OR LESS OF KERNEL 'WINOKA' 2 = 80% OR LESS OF KERNEL 'CHRIS' 3 = NEARLY AS WIDE AS KERNEL 'LEMHI'

[ ] Depth: 1 = 20% OR LESS OF KERNEL 'SCOUT' 2 = 35% OR LESS OF KERNEL 'CHRIS' 3 = 50% OR LESS OF KERNEL 'LEMHI'

**18. DISEASE: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)**

[2] STEM RUST (Races) _____ [2] LEAF RUST (Races) _____ [2] STRIPE RUST (Races) _____ [0] LOOSE SMUT

[0] POWDERY MILDEW [2] BUNT [ ] OTHER (Specify) _____

**19. INSECT: (0 = Not Tested, 1 = Susceptible, 2 = Resistant)**

[0] SAWFLY [1] APHID (Bydv.) [1] GREEN BUG [0] CEREAL LEAF BEETLE

[ ] OTHER (Specify) _____ HESSIAN FLY RACES: [0] GP [0] A [0] B [0] C [0] D [0] E [0] F [0] G

**20. INDICATE WHICH VARIETY MOST CLOSELY RESEMBLES THAT SUBMITTED:**

| CHARACTER | NAME OF VARIETY | CHARACTER | NAME OF VARIETY |
|---|---|---|---|
| Plant tillering | Nugaines | Seed size | Nugaines |
| Leaf size | Nugaines | Seed shape | Nugaines |
| Leaf color | Nugaines | Coleoptile elongation | Nugaines |
| Leaf carriage | Nugaines | Seedling pigmentation | Nugaines |

## INSTRUCTIONS

GENERAL: The following publications may be used as a reference aid for the standardization of terms and procedures for completing this form:

(a) L.W. Briggle and L. P. Reitz, 1963, Classification of Triticum Species and Wheat Varieties Grown in the United States, Technical Bulletin 1278, United States Department of Agriculture.

(b) W.E. Walls, 1965, A Standardized Phenol Method for Testing Wheat Seeds for Varietal Purity, contribution No. 28 to the handbook of seed testing prepared by the Association of Official Seed Analysts. (See attachment.)

LEAF COLOR: Nickerson's or any recognized color fan should be used to determine the leaf color of the described variety.



4

14D. Exhibit D

Basin Soft White Winter Wheat (formerly experimental line 89)

Basin is a common type, high yielding, semi-dwarf, white winter wheat, particularly suited for higher rainfall and irrigated production areas. Basin is less winter-hardy than Daws, but more so than Stephens. Basin usually outyields Stephens and Daws by 10% or more hwere rainfall is 14 to 16 inches or more. Basin shows excellent resistance against common stripe, stem, and leaf rust. Basin shows excellent lodging resistance, being it is shorter than Stephens or Daws. Test weight is usually 2-3 lbs over Stephens.

| | |
|---|---|
| Plant height: | 32 - 34 inches |
| Planting rates: | 40 - 50 lbs dryland |
| | 50 - 60 lbs irrigated |
| Planting dates: | September 15 to October 1 dryland |
| | September 15 to November 1 irrigated |

8500177


# Columbia Basin Seeds

Route 3, Box 271
Moses Lake, Washington 98837
U.S.A.


Columbia Basin Seeds Proprietary Winter Wheat

1983-1984 Yield Data

1983 Trials

| Variety | Yield | Test Weight | Planting Rate |
|---|---|---|---|
| Exp. 88 (Cashup) | 57.6 bu/acre | 62 lbs. | 18 lbs/acre |
| Exp. 89 (89) | 66.1 bu/acre | 61.5 lbs. | 18 lbs/acre |
| Daws | 48.5 bu/acre | 61 lbs. | 18 lbs/acre |
| * Stephens | 51.3 bu/acre | 59 lbs. | 18 lbs/acre |

1984 Trials

| Variety & Location | Yield | Test Weight | Planting Rate |
|---|---|---|---|
| Cashup, Quincy | 153.3 bu/acre | 61 lbs. | 51 lbs/acre |
| Cashup, Warden | 122 bu/acre | 62 lbs. | 66 lbs/acre |
| Cashup, Royal Slope | 113 bu/acre | 61 lbs. | 65 lbs/acre |
| 89, Moses Lake | 159.7 bu/acre | 61 lbs. | 71 lbs/acre |
| Stephens, Moses Lake | 125.6 bu/acre | 60 lbs. | 63 lbs/acre |
| ** Daws, Hartline | 64.5 bu/acre | 61 lbs. | 60 lbs/acre |
| ** 89, Hartline | 70.1 bu/acre | 61.5 lbs. | 60 lbs/acre |
| ** Daws, Hartline | 61.0 bu/acre | 60.5 lbs. | 60 lbs/acre |
| *** Cashup, Sprague | 69.2 bu/acre | 59.3 lbs. | 70 lbs/acre |
| *** Daws, Sprague | 68.9 bu/acre | 59.0 lbs. | 70 lbs/acre |
| Luke, Lind | 38.0 bu/acre | Not available | 38 lbs/acre |
| Tyee, Lind | 33.6 bu/acre | " | 38 lbs/acre |
| Daws, Lind | 40.3 bu/acre | " | 38 lbs/acre |
| Cashup, Lind | 45.2 bu/acre | 62.0 lbs. | 38 lbs/acre |

* Yield adjusted from 30# seeding rate.
** Data averaged over 2 replications.
*** Data averaged over 3 replications.

Our business is seed, through closely monitored seed crops. Foliar application of important nutrients and the use of 10-52-10 and seaweed on our seed. We can consistently give our customers quality seed, which contain higher energy levels. The end result being more bushels in your bin.

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1987 DRYLAND - RUFF

| Variety | Plant Hgt | Protein | Test Wgt | Yield |
|---|---|---|---|---|
| SOFT WHITES | | | | |
| Stephens | 26" | N/A | 50.3 | 39.0 Bu |
| Hill 81 | 29" | N/A | 61.7 | 34.7 Bu |
| Basin * | 22" | N/A | 60.8 | 34.7 Bu |
| Dusty | 25" | N/A | 60.6 | 36.8 Bu |
| Lewjain | 27" | N/A | 59.3 | 35.2 Bu |
| Cashup * | 27" | N/A | 60.2 | 38.0 Bu |
| Daws | 27" | N/A | 60.0 | 38.0 Bu |
| CLUB WHEATS | | | | |
| Tres | 27" | N/A | 59.3 | 42.9 Bu |
| Moro | 33" | N/A | 58.5 | 37.4 Bu |
| Crew | 28" | N/A | 58.9 | 44.0 Bu |
| HRW | | | | |
| Batum | 29" | 11.4% | 59.8 | 39.0 Bu |
| Hatton | 29" | 8.5% | 64.6 | 30.3 Bu |
| Weston | 32" | 7.3% | 61.5 | 34.7 Bu |
| Hawk * | 25" | 6.4% | 56.7 | 34.1 Bu |
| Thunderbird * | 28" | N/A | 63.5 | 28.6 Bu |

* PVP Variety

Sown 9-17-86 by Northrup King

Harvested 7-23-87 Foundation Seed Service

40 lbs per acre seeding rate

All seed treated with Vitavax-200, Lindane, and Super Seed Feed

Replicated 4 times

8500177

1987 MARLIN TRI-MATIC IRRIGATED

| Variety | Plant Hgt | Protein | Test Wgt | Yield |
|---|---|---|---|---|
| SOFT WHITES | | | | |
| Stephens | 36" | N/A | 55.7 | 126.5 Bu |
| Hill 81 | 40" | N/A | 62.0 | 115.4 Bu |
| Basin * | 30" | N/A | 60.2 | 119.4 Bu |
| Dusty | 36" | N/A | 59.2 | 85.2 Bu |
| Lewjain | 36" | N/A | 58.7 | 98.3 Bu |
| Cashup * | 32" | N/A | 61.1 | 129.6 Bu |
| Daws | 37" | N/A | 62.1 | 115.4 Bu |
| CLUB WHEAT | | | | |
| Tres | 38" | N/A | 59.3 | 102.9 Bu |
| Moro | 40" | N/A | 58.7 | 77.1 Bu |
| Crew | 37" | N/A | 59.0 | 101.3 Bu |
| HRW | | | | |
| Batum | 40" | 11.6% | 59.9 | 94.3 Bu |
| Hatton | 38" | 11.5% | 63.7 | 60.5 Bu |
| Weston | 41" | N/A | 61.9 | 84.2 Bu |
| Hawk * | 34" | 12.0% | 63.2 | 110.4 Bu |
| Thunderbird * | 36" | 11.0% | 62.3 | 50.9 Bu |

* PVP Variety
Sown 9-17-86 by Northrup King
Harvested 7-23-87 by Foundation Seed Service
60 lbs per acre seeding rate
Seed treated with Vitavax-200, Lindane and Super Seed Feed
Replicated 4 times

8500177

1987 MOSES LAKE RILL IRRIGATED

| Variety | Plant Hgt | Protein | Test Wgt | Yield |
|---|---|---|---|---|
| SOFT WHITE | | | | |
| Stephens | 40" | N/A | 59.5 | 120.1 Bu |
| Hill 81 | 42" | N/A | 60.7 | 116.7 Bu |
| Basin * | 33" | N/A | 60.0 | 112.3 Bu |
| Dusty | 39" | N/A | 60.6 | 117.6 Bu |
| Lewjain | 42" | N/A | 60.7 | 104.6 Bu |
| Cashup * | 37" | N/A | 60.8 | 117.3 Bu |
| Daws | 38" | N/A | 61.7 | 101.6 Bu |
| CLUB WHEAT | | | | |
| Tres | 43" | N/A | 58.5 | 107.2 Bu |
| Moro | 47" | N/A | 57.3 | 68.1 Bu |
| Crew | 42" | N/A | 58.7 | 105.7 Bu |
| HRW | | | | |
| Batum | 41" | 8.9% | 58.6 | 93.2 Bu |
| Hatton | 49" | N/A | 63.2 | 71.1 Bu |
| Weston | 46" | 10.3% | 60.2 | 86.1 Bu |
| Hawk * | 38" | 9.6% | 62.2 | 104.0 Bu |
| Thunderbird * | 40" | 11.2% | 61.4 | 87.0 Bu |
| Kamzler ** | 46" | 9.9% | 59.0 | 110.3 Bu |
| BU-17 ** | 36" | 9.5% | 61.6 | 106.1 Bu |
| Okapi ** | 47" | 9.6% | 58.6 | 112.7 Bu |
| Corona ** | 43" | 9.9% | 60.3 | 109.1 Bu |
| Archer * (1) | 37" | 9.8% | 62.0 | 98.5 Bu |
| Windridge (1) | 47" | 9.6% | 59.4 | 78.9 Bu |
| Bounty 205 * (2) | 45" | 9.8% | 60.4 | 97.8 Bu |

* PVP Variety

** Not commercially available

(1) Treated with Vitavax-200 only

(2) Not treated

Sown 10-1-86 by Western Plant Breeders

Harvested 7-24-87 by Foundation Seed Service

60 lbs per acre seeding rate

Seed treated with Vatavax-200, Lindane, and Super Seed Feed

Replicated 4 times

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1987 PULLMAN NURSERY

| Variety | Protein | Test Wgt | Yield |
|---|---|---|---|
| SOFT WHITES | | | |
| Stephens | N/A | 59.9 | 114.3 Bu |
| Hill 81 | N/A | 60.4 | 114.3 Bu |
| Basin * | N/A | 60.3 | 102.7 Bu |
| Dusty | N/A | 60.1 | 102.9 Bu |
| Lewjain | N/A | 58.1 | 107.3 Bu |
| Cashup * | N/A | 60.5 | 107.5 Bu |
| Daws | N/A | 60.9 | 101.1 Bu |
| CLUB WHEATS | | | |
| Tres | N/A | 59.5 | 104.9 Bu |
| Moro | N/A | 58.6 | 86.2 Bu |
| Crew | N/A | 58.8 | 103.7 Bu |
| HRW | | | |
| Batum | 9.7% | 57.7 | 110.7 Bu |
| Hatton | 10.4% | 63.0 | 78.9 Bu |
| Weston | 12.1% | 61.4 | 88.3 Bu |
| Hawk * | 10.5% | 62.8 | 99.6 Bu |
| Thunderbird * | 12.6% | 63.1 | 82.4 Bu |
| HRW-4A Kamzler ** | 11.3% | 57.3 | 89.9 Bu |
| HRW-4B BU-17 ** | 11.3% | 60.5 | 90.4 Bu |
| HRW-4C Okapi ** | 10.3% | 57.1 | 77.6 Bu |
| HRW-4D Corona ** | 10.9% | 58.2 | 92.3 Bu |
| Archer * (1) | N/A | 61.0 | 90.3 Bu |
| Winridge (1) | 10.5% | 61.2 | 74.2 Bu |
| Bounty 205 * (2) | 11.1% | 61.2 | 98.3 Bu |

* PVP Variety

** Not commercially available, sown @ 20 lbs per acre

Sown 10-15-86 by Northrup King @ 60 lbs per acre

Harvested 8-20-87 by Washington Foundation Seed Service

Seed treated with Vitavax-200, Lindane, and Super Seed Feed

(1) Vitavax-200 only

(2) No treatment

Replicated 4 times

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# QUALITY DATA BASIN

Enclosed is quality data from Pendleton Flour Mills, Inc. as well as the Western Wheat Quality Laboratory, Washington State University. This data points out that in overall rating, the quality is equal to or better than Daws and Stephens.

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## ABBREVIATION DESCRIPTION

We have implemented a computer program to store, calculate, and retrieve our milling and baking data. The following is a list of abbreviations used as column headings in the following tables of data.

NURSCO - Nursery Code Number (located upper left corner of table).
LABNUM - Laboratory Number (first two digits crop year).
VAR - Variety or selection name.
IDNO - CI or Selection Identification Number.
TWT - Test weight in lbs/bu.
FASH - Flour ash percent at 14% moisture basis.
FYELD - Percent of flour obtained.
MSCOR - Milling score.
FPROT - Flour protein percent at 14% moisture basis.
FABSC - Farinograph water absorption corrected to 14% moisture basis.
FPEAK - Farinograph mixing peak time in minutes.
FSTAB - Farinograph stability in minutes.
BABS - Bake water absorption at 14% moisture basis.
BABSC - Bake absorption corrected to mean protein of nursery.
MTIME - Optimum mixing time in minutes.
LVOL - Bread loaf volume observed in cc's.
LVOLC - Bread loaf volume (cc) corrected for protein to the mean protein of the nursery. (See table 1 or 2, page ix )
BCRGR - Bread crumb grain rating code. (See table 3, page x)

| CODE | MEANING | |
|---|---|---|
| 1 | Excellent | (S*) |
| 2 | Satisfactory | (S) |
| 3 | | (Ø-S) |
| 4 | Questionable-Satisfactory | (Q-S) |
| 5 | | (Q-Ø) |
| 6 | Questionable | (Q) |
| 7 | | (Q-Ø) |
| 8 | Questionable-Unsatisfactory | (Q-U) |
| 9 | Unsafisfactory | (U) |

CODI - Cookie diameter in cm's.
CODIC - Cookie diameter (cm) corrected for protein to the mean protein of the nursery. (See table 1 or 2, page ix )
VISC - Brookfield viscosity (observed)
VISCC - Brookfield viscosity corrected for protein to the mean protein of the nursery.
CAVOL - Japanese Sponge Cake Volume in cc's.
SCSCOR - Sponge cake score (scale 1-100)
WTIN - Noodle weight increase (percent).
NYELD - Noodle yield.
NOSCORE- Noodle score (1-100)
MABS - Mixograph absorption at 14% moisture (%).
MABSC - Mixograph absorption corrected for protein (%).
MTYPE - Mixograph Type - From Mixograph Reference Chart.

USDA, SEA AR
WESTERN WHEAT QUALITY LAB.
PULLMAN, WA.

COLUMBIA BASIN SEEDS

NURSCO 22

MOSES LAKE, WA

D. WALKER

| LABNUM | VARIETY | IDNO | CLASS | TWT | FYELD | FASH 1/ | MSCOR | FPROT 1/ | MABSC 3/ | MTYPE |
|---|---|---|---|---|---|---|---|---|---|---|
| 830758 | STEPHENS | C1017596 | SWW | 59.9 | 72.5 | 0.41 | 84.3 | 7.3 | 52.3 | 2L |
| 830759 | DAWS | C1017419 | SWW | 61.2 | 69.5 | 0.43 | 78.9 | 8.3 | 52.1 | 3L |
| 830760 | EXP. 88 CASHUP BASIN | | 6/SWW | 60.5 | 69.2 | 0.44 | 76.9 | 6.9 | 51.2 | 1L |
| 830761 | EXP. 89 | | SWW | 59.9 | 67.0 | 0.44 | 72.9 | 7.0 | 50.9 | 1L |

1/ Observed Values Corrected to 14% Moisture Basis.
3/ Absorption at 14% Moisture Corrected to 8% Protein.
4/ Observed Values Corrected to 8% Protein.
5/ Particularly Promising Overall Quality Characteristics.
6/ Promising Overall Quality Characteristics.

| LABNUM | VARIETY | IDNO | CLASS | CODI | CODIC 4/ | CAVOL | SCSOR | WTIN | NOSCO | RMKS |
|---|---|---|---|---|---|---|---|---|---|---|
| 830758 | STEPHENS | C1017596 | SWW | 8.71 | 8.64 | 1245 | 73.0 | 357 | 77 | |
| 830759 | DAWS | C1017419 | SWW | 8.54 | 8.57 | 1200 | 68.0 | 372 | 78 | |
| 830760 | EXP. 88 CASHUP BASIN | | SWW | 8.89 | 8.77 | 1275 | 72.0 | 359 | 73 | |
| 830761 | EXP. 89 | | SWW | 9.02 | 8.91 | 1265 | 73.0 | 352 | 66 | Low FYELD |

COMMENTS: No. 88 appears to be similar to Daws in most quality factors. No. 89 is poor in milling properties as reflected by low flour yield.

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# PENDLETON FLOUR MILLS, INC.

P. O. BOX 1476
PENDLETON, OREGON 97801
TELEPHONE (503) 276-6511

November 22, 1983

Mr. Grant Torrey
Columbia Basin Seed
Route 3, Box 271
Moses Lake, WA 98837

Dear Grant:

The analysis for the two wheats are as follows:

| | Moisture | Protein | Ash | Visc. | Spread | Abs. | Pk. | MTI |
|---|---|---|---|---|---|---|---|---|
| Ex. 88 CASHUP | 10.8 | 9.1 | 1.67 | | | | | |
| Ex. 89 BASIN | 10.7 | 9.4 | 1.65 | | | | | |
| Ex. 88 Flour | 11.8 | 8.1 | .48 | 35 | 7.43 | 54.5 | 1.0 | 140 |
| Ex. 89 Flour | 12.1 | 8.0 | .48 | 34 | 7.92 | 57.1 | 1.0 | 160 |

| YIELD | Patent | Clears | Midds & Bran |
|---|---|---|---|
| Ex. 88 | 71.4% | 2.7% | 25.9% |
| Ex. 89 | 69.6% | 2.7% | 27.7% |

The wheats were very close as far as protein, moisture, ash, and viscosity. However, as a flour mill, we like flour with a cookie spread of about 8.0. As you can see, Ex. 89 is somewhat better than Ex. 88.

We like absorptions around 57%, which Ex. 89 shows. However, the absorption level on Ex. 88 of 54.5% is acceptable.

The yields of the wheats are close enough that there is no signifcant difference.

Overall, both wheats are of good quality and comparable to Stevens. We would rate Ex. 89 slightly better than Ex. 88.

If you have any other questions, please feel free to call.

Sincerely,

Matthew J. Terjeson

Matthew J. Terjeson
Production & Quality
Control Manager

cc: Dan H. Breland

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**EXHIBIT E**

The precise origins of this novel variety are unclear, but this applicant was originally approached by others for assistance in securing a Plant Variety Protection Certificate for the variety; initially by Steve Shear and later by Jay Gehrett, with both contacts prior to 1983. In my opinion, neither Mr. Shear nor Mr. Gehrett then had a clearly defined and distinct novel variety that would be eligible for Plant Variety Protection. The variety was then only partially developed, non-distinct, unstable, impure, and non-uniform when grown out. For several years, further development was undertaken in attempted cooperation between this applicant and Jay Gehrett, but the precise interests of each party are disputed, and have been the subject of litigation improperly initiated in the Superior Court for Grant County, State of Washington. Said litigation has been dismissed with prejudice, and it is my understanding that Mr. Gehrett intends to soon file a new claim for declaratory relief and determination of our respective interests in the variety in the proper forum: the U.S. District Court for the Eastern District of Washington State.

Said litigation will determine the actual ownership of the variety. Mr. Gehrett could be determined to be the absolute owner of the variety or this applicant could be determined to be the absolute owner of this variety. More likely than not, the U.S. District Court will probably determine that <u>both</u> Mr. Gehrett and the applicant share an interest in the variety, with the actual percentages determined by the extent of contribution towards the end result.

For present purposes, ownership should be considered jointly reposed in Dale Walker and Jay Gehrett.

Jay Gehrett's address and telephone number are:

Route 3 Box 27
Walla Walla, WA 99362

Phone: (509) 525-0146

Exhibit E for both Basin and Cashup.